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ABSTRACT

The paper reviews the developmental perspective in interventions with behaviorally disordered youth and considers developmentally based models (such as the engineered classroom, the conceptual level model, and the developmental task instructional system). The Intervention by Prescription (IBP) model, an integrated problem solving system, is described and applied to the domain of impulse management. Theoretical and research principles in impulse control are reviewed. Nine stages of development are identified and appropriate interventions at each level considered. (CL)

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Developmental Interventions with Behaviorally Disordered Youth

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Introduction

This monograph presents examples of intervention strategies for persons who work directly with behaviorally disordered youth. Accordingly, the charge to this author is to describe developmental interventions for this population. Several professionals are associated with the concept of developmental interventions, including M.M. Wood, D.L. Lillie, F. Hewett and others. However, if you asked these authors to name only one developmental intervention, and then to say no more, they would probably see the task as impossible. This is not because developmental interventions do not exist, but because more needs to be said in order to understand the framework that makes an intervention "developmental."

Development is not static; it is progressive and dynamic, and an intervention that may be appropriate and indeed "developmental" at one stage will not necessarily be so as the development of the child progresses. In this chapter, "developmental" refers to the sequence of behavioral changes, in a variety of domains, that follows the normal progression toward maturity. "Intervention" refers to adult behaviors, environmental adjustments and specific program or curricular offerings that are applied to promote change in child behavior.

In order to understand the importance of selecting or implementing developmental interventions, one must first understand the developmental approach and the orientation of practitioners who use this model. This caveat is not a disclaimer by the author, or an unwillingness to tackle the charge. Indeed, it would be much easier to select a favorite intervention and describe it in detail. But this would leave both the reader and the writer unsatisfied, and the developmental interventionists unrepresented.

This chapter presents the developmental perspective, briefly reviewing some recognized developmentally based intervention programs, and presents views on the need for a synthesis of approaches. It reviews the Intervention by Prescription (IBP) model, a developmentally based model that attempts to synthesize approaches across four major domains. A specific domain of functioning from this model will be discussed in detail — the development of impulse management. The key markers in the developmental process are discussed with a review of the most relevant research and theory. Specific implications from this area for intervention strategies are presented. Finally, the ties between development of impulse management, prescriptive interventions and curricular approaches are discussed.

The Developmental Perspective

The belief that there is a relatively standard progression of changes through which all children move as they mature is inherent in the developmental perspective. There is an abundance of general literature in the area of child development. Basically, these texts describe changes that take place with age in physical growth, intellectual skills, feelings and social relations. However, the specificity and integration of concepts in most of these leaves the reader wanting. Often, to understand a complex thing, we must disassemble it and examine its parts, even though it is the dynamic whole which we seek to understand. This seems to be the case as one attempts to understand the complex process of development in children. The task of conceptual reassembly often seems beyond our reach when we begin to appreciate the dynamic interplay between affect and cognition and their increasingly complex features. There is a conceptual logic to this material, however. The assumption is widely held that there is an orderliness to the normal progression toward maturity — a certain predictability in the sequence— and the "whole " then makes sense.

As a general guide to observing behavior, patterns can be identified in the course of development, and these patterns are relatively standard for most children at similar ages. Too often, only cliches and generalizations are retained from this more general information, however. There is more richness and depth to the process of development than is reflected in cliches like "adolescence is a time of turmoil." Educators want more detail and specificity as they try to understand children and the behaviors children produce. The promise that a more detailed description of development is possible, one that examines one domain of functioning at a time, has appeal for practitioners. Such information may provide more guidance for their inquiry, diagnosis, and selection of interventions.

Some developmentalists hold the belief that there is a definite hierarchy in development; within a particular area, the stages of development can be identified, and all children progress through the same hierarchy as they develop. The set of assumptions that underlie developmental hierarchial theories has been described by several authors, including Kohlberg (1971) and Piaget (1962). The basic premises of these theories are:

Children are inspiringly different. They each bring a very different potential to their developmental areas.

1. Stages are observable. Patterns exist that are sufficiently different from one another to be distinguished.
2. Stages are not tied to age, but correspond to age.
3. Rate of progress through stages proceeds at a pace that allows for mutuality between innate structures and the changing demands of the environment.
4. Specific stages exist for various domains of child functions; the absolute number of stages varies.
5. Progress through stages occurs in a logical manner. The order a child goes through stages of development is invariant.
7. Modal patterns are most representative of a child's level of functioning. However, different levels of development can be observed depending on circumstances.

It is very attractive to think that when we look at a particular area of child functioning — be it affective, social or other — we might know the sequence of development, identify how a particular child is progressing, know the next level to be obtained and even select our programs and responses in order to facilitate the emergence of the next level of development. The notion promises prescriptiveness and interventions that are not only based on problem areas, pathology and deficits, but on a picture of normalcy, growth and strengths as well.

Not all theorists or practitioners have grasped this approach to their bosoms, however. The controversies that surround the hierarchial development approach in education and psychology are very well delineated by Phillips and Kelly (1975). The greatest difficulty for most who oppose this approach is the assumption of invariant order in the stages and the present lack of empirical research. Opponents are quick to point out that children are inspiringly different and that they each bring a very different potential to their developmental areas. To assume that children will progress through the same stages in an invariant order feels restrictive and illogical. Those who hold the hierarchial developmental position, however, while admitting the current paucity of empirical evidence for the actual stages, emphasize that the speed that individuals progress through the stages certainly varies. How far an individual will be able to develop in the overall sequence is based on the degree to which the individual's needs and abilities are nurtured, and supported by the many different areas in which they develop and the adults in them. It is by no means my intent to try to solve this controversy, nor even to spell it out in its full detail. Rather, my intent is to underscore the usefulness of this developmental perspective for educators and clinicians, particularly those who wish to be prescriptive with students who experience emotional and behavioral difficulties.

Developmentally Based Intervention Models

The developmental perspective has been employed by a number of model developers. Attempts have been made to match adult responses and learning environments with children's developmental needs in the areas of learning, interpersonal relations, environmental interactions and affective development. These models vary in the aspect of development they focus on, and also the degree to which development stages are specified. However, the basic intent of each model is the same: to match environment and adult interaction with student needs. Several models illustrate the aspects of development and the methods used to adjust environmental responses.

Note that there are no secondary or elementary grade distinctions as such in these models. In accordance with the concept of progression, the needs of the student are identified at whatever level they exist and programming is adjusted accordingly. While certain needs and programs would be more commonly found at some age levels, it is possible that a secondary-age student may demonstrate lower level needs and therefore require a program and an environment more often associated with a younger student. The belief in these models is that the developmental level, not the age of the student, should dictate the appropriate response and therapeutic environment.

1. The Engineered Classroom Model. Wood and Swan (1978) state that, "Hewett (1968) was the first to introduce and evaluate the effects of using a developmental hierarchy of educational goals on the academic achievement of emotionally disturbed school-age boys" (p. 197). Hewett's model was first known as the "engineered classroom." It is now referred to as a "procedure for orchestrating success." In this model,

Hewett identified six levels of learning competence that are developmentally sequenced in order of their complexity. From simplest to most complex, the six competencies are: attention, response, order, exploratory, social and mastery. The model requires that the child's learning needs, according to the competency hierarchy, are carefully matched with the curriculum presented. Adult responses are also carefully planned to reinforce the task identified, the competency level. The engineered classroom model combines the concept of developmentally sequenced learning competencies with a behaviorist approach to curriculum and adult reinforcements.

2. Interpersonal Maturity Level Model. In 1969, M. Warren described a model for the treatment of deliquent youth. The model, known as the "I-level system," identified a developmental sequence in interpersonal relations. The sequence represents increasingly mature personality integrations or levels of functioning. The system allows practitioners to examine the behavior of a student and compare that behavior pattern with characteristics representative of one of the six levels of interpersonal maturity. The "I-level" is then matched with specific treatment prescriptions. For example, Warren identifies the lowest I-level as asocial. At this level, behavior is characterized as primitive, impulsive, insecure, inadequate, maladaptive, hostile and non-trusting. The treatment prescribed for this level is clear and concrete structure of low pressure; warmth and acceptance, and slow and supportive direction toward conformity.

3. The Conceptual Level Model. The conceptual level model describes how an individual relates to his or her environment (Harvey, Hunt and Schroder, 1961). The model defines three general levels of relationships with the environment: unsocialized, dependent and independent. For each level, characteristic behavior patterns are described. For each level, the environments needed to facilitate further development are also identified. "To achieve maximum results, the student's conceptual level or developmental stage must be matched with an environment that contains the appropriate degree of structure" (Rich, 1982, p. 293).

The conceptual level model and the interpersonal maturity level model have striking similarities. They basically describe very general stage differences in an individual's maturing interactions with his or her environment. Whereas the Hewett model more clearly addresses learning tasks, these models generally address the maturation of impulse management and the integration of structure into cognitive process.

4. The Ecological Integration Model. Swap (1974), emphasizing the interaction between learning environments and student needs, describes an ecological treatment model for understanding and responding to disturbing classroom behaviors. In this model, Swap integrates Hewett's educationally based developmental model with Erikson's psychologically based developmental model. The result is a description of the "triggering behaviors" that might be expected for a given child at the various developmental stages describd by Erikson and Hewett. The adaptive environmental response needed to appropriately support the child's level of development at each stage is identified. The significance of this approach is that it emphasizes the nature of children as developing beings for whom different supports are appropriate at different stages of development. This critical interaction between developmentally changing organisms and support systems is the basis of the ecological approach. It places the concept of disturbance between person and environment, making it a product of both rather than putting sole responsibility for behavior on the child. Underscoring the ecological principles represented in this model, Swap writes, "Emotional disturbance is not viewed as the inevitable outcome of difficulty in negotiating developmental stages. If disturbance occurs, it is because of the interaction between the child and critical persons in the child's environment." (Swap, 1974, p. 169)

The next three models are similar in that they are highly detailed in curriculum recommendations. Several domains of development are considered, and curricular requirements are specified for each level.

5. The Sequential Development Task Analysis Model. The Sequential Development Task Analysis (SDTA) model is a curriculum approach developed by D. Ashurst.

> The foundation of the SDTA process is the developmental assessment of an individual's functioning in cognition, language, social-affective behaviors, motor and life skills. Through comparison of an individual's performance with normal developmental milestones, educators can objectively identify major levels of functioning, gaps in development, emergent concepts and splinter skills or non-integrated behaviors. (Bamberg and Fentman, 1978, p.1).

The Ecological Integration Model emphasizes the nature of children as developing beings.

The Matching Model provides a conceptual framework for finding congruency between student needs and environmental provisions.

This model allows educators to match teaching styles and curriculum to the developmental needs of the individual in several domains.

6. The Developmental Task Instructional System. The Developmental Task Instructional System is also a developmentally based curriculum program. Developed by D. Lillie, it is primarily designed to "prepare three-, four- and five-year-old children to cope successfully with the demands of society " (Lillie, 1975, p. 18)

The program is based on common developmental hierarchial assumptions: "it is assumed that motor development, perceptual development, reasoning development and language development all take place in an irreversible sequence," (Lillie, 1975, p.18).

A careful coordination of assessment and instruction is designed in this model. Students are developmentally assessed in six areas: fine motor, gross motor, visual perception, reasoning, receptive language and expressive language. From the assessment, teachers identify the developmental objective to be reached and arrange instructional activities specifically to meet the developmental task.

7. The Developmental Therapy Model. Probably the name most closely associated with developmental intervention is Mary M. Wood. Wood (1975) integrates developmental principles and the psychoeducational approach in the treatment of severely disturbed young children. The model, called the Developmental Therapy model, is a carefully engineered curriculum. It spells out not only the appropriate and prescriptive intervention for a given level of development, but also the appropriate role of the teacher, techniques to be used, and the environment and experiences needed to foster development.

> The process is seen as a developmental progression in which the elimination of pathological behavior and the stimulation of developmentally appropriate behavior closely follow normal sequences of maturation. By systematically utilizing developmentally suitable experiences in the therapy program, the occurrence of constructive behaviors is stimulated. Each small, sequential experience represents a step toward normal maturation and development. (Wood, 1975, p.5)

There are five stages in the Developmental Therapy approach:

1. responding to the environment with pleasure;
2. responding to the environment with success;
3. learning skills for successful group participation;
4. investing in group process;
5. applying individual and group skills in new situations.

Wood and Swan (1978) reported data they feel suggest that there is a hierarchial sequence to the stages identified in the Developmental Therapy model. They conclude that "the concept of hierarchial integration of lower level skills into more complex skills, as suggested by stage theorists, can be seen in the proportion of objectives mastered within each curriculum area across stages" (p. 207).

8. The Matching Model. The matching model was developed from the theoretical literature and research studies associated with educational strategies, emotional disturbance and person-environment interactions. Rich (1982) describes a continuum of functioning from basic to advanced. The model is designed to promote congruency between the student's developmental needs and educational objectives, intervention strategies, teaching style and management strategies. Rich suggests the need for integrating approaches in the education of disturbed students. The matching model assists practitioners in adjusting strategies and styles according to recognized needs. The model, following a developmental perspective, is dynamic in nature. "As disturbed students achieve the hierarchial educational objectives and/or behavior changes to a more advanced level, the intervention strategy, teacher style and management strategies need to shift accordingly" (Rich, 1982, p. 303).

The matching model represents a conceptual integration of some of the models discussed earlier. While it does not specify roles and curricular objectives in the same detail, it does provide a conceptual framework for teachers to use in striving for congruency between student needs and environmental provisions.

Research and Theory: Synthesis from Theory to Practice

By now, some readers have surely wanted more specifics. Some probably have thought, "just describe a good behavioral intervention or even a specific psychoeducational one, and let's be on with it." While specificity is surely desirable, the need for identity with treatment camps is not. More and more, theorists and practitioners are recognizing that using only one treatment technology is insufficient for the problems we face as educators of emotionally disturbed and behaviorally disordered youth. In fact, using one only technology is insufficient for work with normal children, and we should have become comfortable with that fact long ago. Increasingly, the need for a synthesis of approaches, an integration of parts, is valued.

"Synthesis" is defined in the *American Heritage Dictionary* as, "the combining of separate elements or substances to form a coherent whole." A synthesis of theories is desired, not a mix. There is an important distinction to be made. Synthesis does not mean mix. The treatment techniques and approaches are different, and they cannot be made to look like each other.

Morse noted, "There seems to be a great need to have the one and only elixir of cure, be it behavior modification or family therapy. Nowadays there is even an effort to show how all are one and the same by compulsive professionals who cannot stand to be different" (1981, p. 15).

Blending the theories is not appropriate; the essence of the various approaches will be lost or masked. But a synthesis of technologies can be accomplished. On the foundation of normal developmental theory, each camp can function and contribute to a very rich treatment "whole." In reference to different treatment modalities Morse continued:

> One is not better than another: one is more appropriate for a given youngster in a given setting for given goals. There is a need for behavior modification, cognitive learning, learning through relationships and expressive media. The fact is, with all the modes, we do not seem to be doing as well as we should. (1981, p.15).

There are limitations in the degree to which psychoanalytic and behavioral therapy can be integrated. Basic assumptions underlying the two camps probably cannot be reconciled. Messer and Winokur (1980) describe these limitations in detail. For practitioners who work daily with very complex, difficult, disturbed students, however, a full integration of these two theoretical positions is hardly the critical priority. What is important is that the best of these technologies be made available and synthesized into a working whole, a framework that assists educators in knowing which technology is most appropriate at a given stage in a child's development. Garner has called for a "Truce in the War for the Child." He writes, "It is becoming clear that children who receive help from only one of the two camps are being denied the kind of comprehensive treatment and training they must receive if they are to experience their full potential as human beings" (1976, p.315).

But is a synthesis possible? The developmentally based models previously reviewed each integrate different aspects of the behavioral approach and the psychoeducational perspective. One of the dangers in these attempts is that because we still know too little about the specifics of development in various domains, we may over-generalize the theoretical insights and dwell on curricular approaches that are not well-founded. As educators, we often feel more comfortable working with curriculum than with theory. At least in our separate treatment camps, those subscribing to the behaviorist approach have remained relatively disciplined to a learning theory base, and the psychoeducators, more or less, to the analytic orientation. In the process of synthesizing then, we need to take care not to create new adult rituals, new systems that are not founded in a theoretical base and that are fragmented bits from many different sources.

Developmental theories hold promise of being synthesized as a firm foundation from which to view and select multiple technologies. Such a synthesis fosters an understanding of cognition and affect as complexly intertwined. It can help practitioners resist artificial dissection of this important "whole," and focus only on behavior, on learning or affect. It can significantly enhance and extend our understanding and treatment of the developing individual.

Theorists and practitioners are recognizing that using only one treatment technology is insufficient.

The richest diagnostic data lie in students' perceptions and behaviors, not in adult "paper and pencil" rituals.

The Intervention by Prescription Model

In 1979-1982 a new developmentally based model was designed. This model, Intervention by Prescription (IBP), synthesizes developmental hierarchial theories and couches them in a problem-solving framework. This was done to bring developmental information into better readiness for use by practitioners. The IBP model was the product of a U.S. Department of Education model project for school-aged handicapped youth. The goal of the project was to design and demonstrate the usefulness of a developmentally based diagnostic-intervention model for work with emotionally stressed students. Project personnel followed Bijou's belief that, "a well trained model constructor is truly one who 'stands on the shoulders of giants,'" (1977, p.7). The giants upon whose shoulders we selected to stand were the developmental hierarchial theorists: Loevinger, Erikson, Piaget, Kohlberg, Selman and others.

Central to the IBP problem-solving process is an individual assessment schemata that helps diagnosticians and other practitioners understand the student's development. The developers believed that there are arenas of child functioning that seem to be more saturated with critical data than others. These arenas, or domains, should be concentrated on for data gathering and diagnosis, and for basing decisions regarding prescriptive interventions. Accordingly, four domains of development were selected: impulse management, affective investment, social understanding and conflict resolution.

In this model, practitioners are encouraged to concentrate their assessment efforts in direct contact with the student. It is in the student's perceptions, understandings, reasoning, explanations and behaviors that the richest diagnostic data lie, not within our adult "paper and pencil" rituals. The developers of the IBP model hypothesized that when a child's development across domains is significantly erratic, the potential for pathology is greatest. This is due to the inevitable conflict between the student's behaviors, adult expectations, and the environment's ability to provide appropriately for such erratic development.

Although the IBP model is an integrated problem-solving system that takes into account development in each of the areas, this chapter describes only one domain, impulse management. This model is currently being refined as it is replicated in various school sites. From these replications, we expect further insights to be added to the model. The synthesis of concepts in this area is presented here because impulse management is central to the concerns of teachers of behaviorally disordered students. The behavioral emphasis automatically applied when impulse management is explored does not make this domain the best for illustrating the direct child inquiry method so important to the IBP model; that is better illustrated in the other domains. Nevertheless, this schema is ideal for representing how a synthesis of approaches, behavioral and psychoeducational, can be achieved and their prescriptiveness determined in the light of developmental theory.

Impulse Management: Empirical and Conceptual Basis

According to the IBP model, the ability to manage impulses develops in a relatively predictable fashion and is observable in behavioral patterns. To better understand and describe this phenomenon, it has been broken down into three parts. The first is the processes which change during development. The next part is the actual behavioral stages. The stages emerge with development and it is believed that all children progress through these in the same order. Examples are given of the behavioral pattern representative of each stage. The third part is stage implications. These indicate the environmental supports, interpersonal processes, environmental characteristics and learning experiences that are prescriptive for each developmental stage.

The Changing Processes

To look more carefully at the development of impulse control, one must examine two changing processes: the source of control and the role of cognition (*Figure 1*). The arrow at the left of *Figure 1* depicts the process of shifting from dependency on external sources for controlling impulses to a reliance on internal sources of control. There are key behavior markers in this process. First, it is necessary for children to be able to self-observe; they must be able to see their part in an interaction and to associate their own behavior with the environmental responses. Goldfried and Merbaum (1973) identified the ability for self-observation as one of the essential cognitive skills in a long-term behavioral self-control program.

The second key marker in this progression is the ability to employ self-talk. Vygotsky (1962) sees internalization of verbal commands as the critical step in the child's development of voluntary control of his or her behavior. Luria (1961) identifies three stages in developing internalization of impulse control. The child, according to Luria, is first controlled by verbal instructions and reactions of persons external to himself or herself, (e.g., parents). "The child then begins to regulate some of his own actions through audible self-talk. And finally the self statements become covert." (Meichenbaum, 1976, p.227).

This progression from external to internal control of behavior is generally accepted. Methods for providing external control have been amply described by authors who subscribe to learning theory approaches. More recently the role of cognition has gained attention in behavioral literature. Several authors describe the process of teaching children to use cognitive processes to control behavior. Among these are Meichenbaum (1976), Goldfried and Merbaum (1973) and others. Studies have shown that prosocial behavior can be increased (O'Leary, 1968), disruptive behavior decreased (Hartig and Kanfer, 1973), and performance improved (Meichenbaum and Goodman, 1969). The strongest effects have been found when an adult modeling self-talk is combined with instruction in self-talk for the student (Meichenbaum and Cameron, 1973). A comprehensive review of the literature has been provided by Polsgrove (1979).

It should be recognized however, that the progression from use of external to internal controls is more complex than simply learning cognitive skills. The responses of the individual to the source of control and the meaning that control, and controlling, may have for the individual, adds a new dimension. The concerns of the psychoeducators begin to come into focus. Using a base of social learning theory, Rotter (1966) discusses the concept of internal vs. external control in terms of the person's own perceptions of control as a psychological variable. The exercise of internal control may meet other needs as well, and be more than a learned response. It may have other effects on personality development. Indications are that promotion of internal control is associated with self-assertiveness, activism, hopefulness and positive coping, whereas an ideology of external control accompanies defeatism, helplessness, passivity and depression (McGhee and Grandall, 1968; Rotter, 1966; Rotter, Seeman and Liverant, 1962).

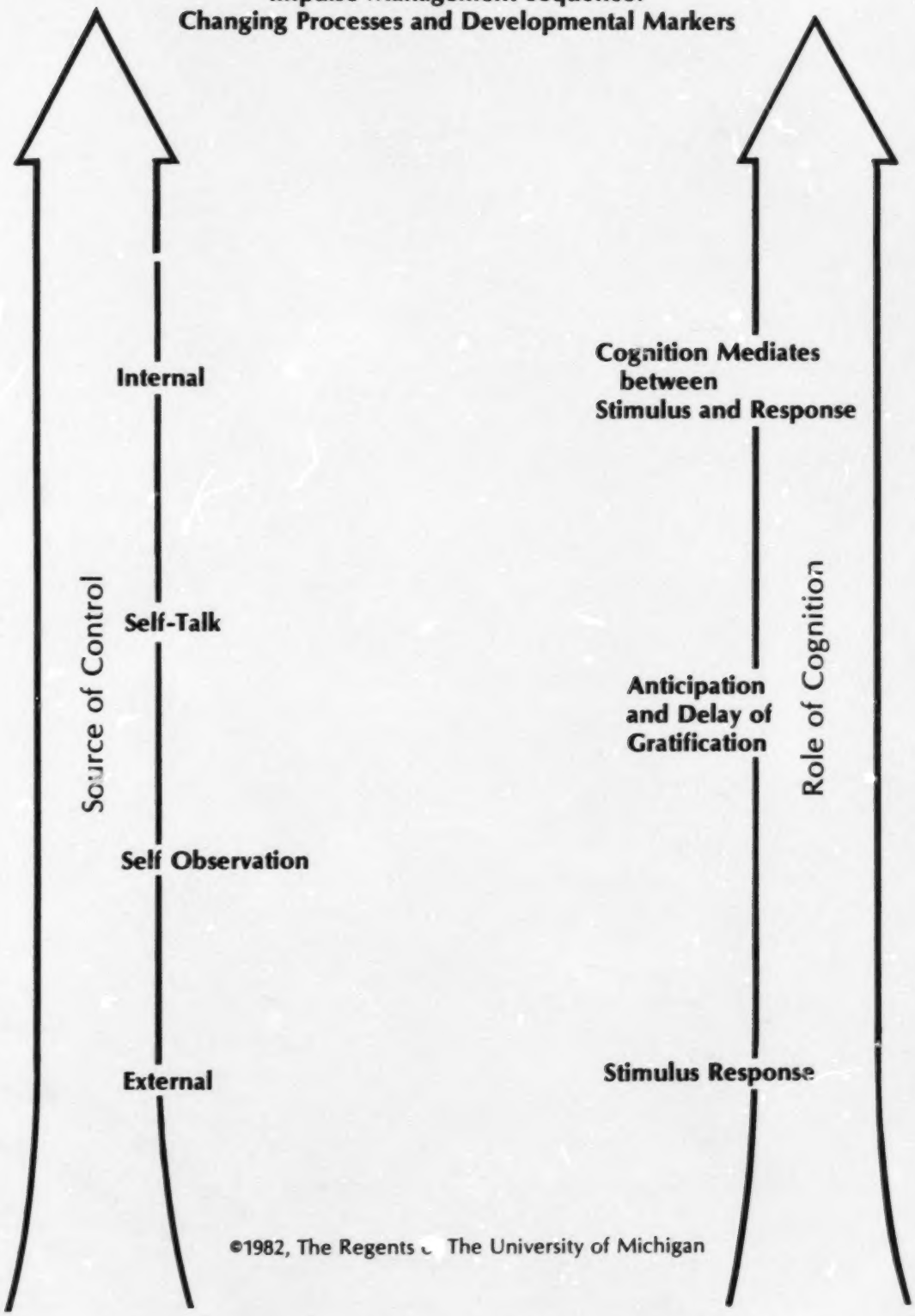
The work of deCharms suggests another dimension to be given attention, the role of personal responsibility. In describing the results of his motivation project, deCharms indicates that impulsive students have a generalized orientation to external control. They "tended to see their behavior as dependent on parents and authorities. . ." (1976, p.187). Therefore children who were low in impulse control saw themselves as more dependent on external sources for control. deCharms conceptualizes a process of development that parallels the ego development stages described by Loevinger (1966). The individual progresses from being a Pawn, acted on and controlled by outside forces, to an Origin, able to control responses, goals and decisions. In the IBP model, the concept of changing pawn and origin orientation is included in the domain of conflict resolution. However, it also relates to the process of ego growth and the assumption of responsibility for behavioral control—the progression from externalization to internalization.

As with so many aspects of behavior, more needs to be discovered before we may fully understand how this progression takes place. It is relatively clear, however, that it does occur, that it involves behavior, thought and feelings, and that there are significant markers in the process. It is also clear that this development should be supported and fostered for all children.

The progression from use of external to internal controls is more complex than simply learning cognitive skills.

Figure 1

Impulse Management Sequence:
Changing Processes and Developmental Markers



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The ability to anticipate and to delay gratification is a major marker in developing impulse management.

> We are impressed that so many sources converge at the common conclusion that motivation for self-control has been an extremely powerful factor in the disruptive or deviant behavior of large numbers of young people. Furthermore, we are deeply concerned by the educational system's apparent reluctance to provide for the development and exercise of self-control. (Fagen, Long and Stevens, 1975, p.15).

The second major process that changes in the development of impulse management is the role of cognition. This is represented on the arrow at the right side of *Figure 1*. Of course, cognition was involved in changing the source of control. As a person learns to self-talk, cognition exists. The changing role of cognition can be better seen however, as we view the right side of *Figure 1*. Human behavior changes from a primarily stimulus-response pattern to a stimulus-cognition-response pattern. Increasingly, the process of thinking mediates between the stimulus and reactions, and effects our responses. The concept of teaching a child to self-talk is based on the belief that it is possible to interrupt a response chain by inserting cognition between the stimulus and response (Meichenbaum, 1976).

The major markers in this process are the abilities to anticipate outcomes and to delay gratification. These functions seem to be inseparable in development. As individuals gain increased experiences and can synthesize these into a view of the world around them, they begin to organize their perceptions. If the environment and the adult responses have been consistant and predictable, the individual begins to associate particular conditions and responses with his or her own behaviors. This ability to anticipate is a sign of the ego's organization ability, and leads directly to the ability to delay gratification. According to Freud (1963), developing the ability to delay gratification is a major step in the shift from chaotic, diffuse primary-process thinking to synthetic, goal-directed, reality-oriented, secondary-process thinking (as cited in Erikson and Roberts, 1971, p.382).

Delay of gratification has been studied by several authors. Erikson and Roberts (1971) found that delinquent boys who chose to delay immediate gratification differed from other deliquents in that they were less impulsive, more able to delay gratification and perceive more internal control over their behavior. Rozek, Wessman and Gorman (1977) explored the relationship between temporal span and delay of gratification. They found that temporal span and capacity to delay gratification were both strongly related to age and to stage of cognitive development. Davids (1969) studied disturbed and normal children's abilities to delay gratification. He found that "when the task calls for a voluntary slowing down of response, with inhibition of motor movements, the disturbed children function much less effectively than do the normal children" (p.67). The ability to anticipate and to delay gratification is viewed in the Intervention by Prescription model as a major marker in developing impulse management.

Understanding the processes involved in the development of impulse management—the changing source of control and the role of cognition—is important. Once we understand the processes in operation, student behaviors take on more meaning. Behaviors reflect progress, or lack of it, toward acquiring more cognitive skills and personal power, or an integration of the two. It is particularly important to have such a framework when we try to understand the behavior of disturbed and behaviorally disordered youth, where the lack of impulse control so often plays a major role. This understanding provides practitioners with a theoretical base for assessing development and progress of an individual student. The developmental markers become skills to foster, skills to teach, and goals for programs to focus on. While we may teach to and foster the processes, developmentalists firmly believe that the stages of development emerge. In identifying the stage a child is at, we may gain insight into his or her behavior. However, one cannot teach the student to behave at the next higher stage. The integration of affect and cognition that occurs to produce a given behavioral pattern is the product of experiences, new cognitive abilities and psychological development. It cannot be taught. This chapter next examines the actual behavioral stages children progress through as they develop impulse management abilities.

Assessment

Developmental assessment plays an important role in the IBP model. It is facilitated by a basic question-and-answer format. The specific stages children are thought to move through as they develop the ability to manage impulses have been identified. As this model is refined, these stages will also be further elaborated. *Figure 2* shows the nine stages identified to date. They are arranged in the order they emerge in the course of development. The stages represent behavioral patterns and reflect different levels of functioning in relation to the changing processes previously described. The reader is encouraged to compare *Figures 1* and *2* as the specific stages are discussed. In comparing, you will see how the different stages reflect the increasing influence of cognition, feelings and internalization of control on behavior. The spiral depicts the dynamic continuous nature of development, and the distinct yet related stages, each one arising from the previous one.

The basic question asked when assessing impulse management is "How are impulses managed?" There are nine identified potential answers to this question. In the IBP model, the question and potential answers are used as a cueing system to assist practitioners in systematically exploring this area of development. Practitioners seek to discover the answer that best represents a particular student's level of functioning. They do this by observing the student, and by discussing the student's behavior with the parent, teacher, peers and student. Information may also be assembled by experimentally creating conditions under which the student will need to exercise impulse control. Through observations, the diagnostician can gain insight into the student's level of development.

The IBP study found that a modal behavior could be identified—the behavior pattern that represented the most frequent type of response to the management of impulses. It was also possible to identify the type of behavior likely to be produced under optimal conditions, and under unfavorable conditions. In fact, when the research staff and local interventionists judged the same written descriptions of different student behaviors, their reliability in judging the developmental level of impulse management was .95 (Rezmierski and Shiffler in preparation).

When doing developmental assessment, it is important to recognize that one observation will not give sufficient information to determine the modal level of functioning. Several sources of information are highly desirable. It is also important to draw information from several different periods in a school day, as well as from different ecologies in the student's life. Developmental stages are associated with ages, and it is possible to identify the age at which children typically reach each stage. However, it is unwise to rely solely on ages in doing assessment. The lack of empirical evidence for the stages requires caution. Also, many disturbed and behaviorally disordered students show behavioral patterns at developmental stages far below the norm for their age. A developmental intervention must be designed; it must fit the developmental level of the student, not the age level. This is particularly difficult, it seems, when assessing older students. In assessment at this level, we tend to ignore our findings and to treat the students in ways that feel appropriate to their age, not their stage.

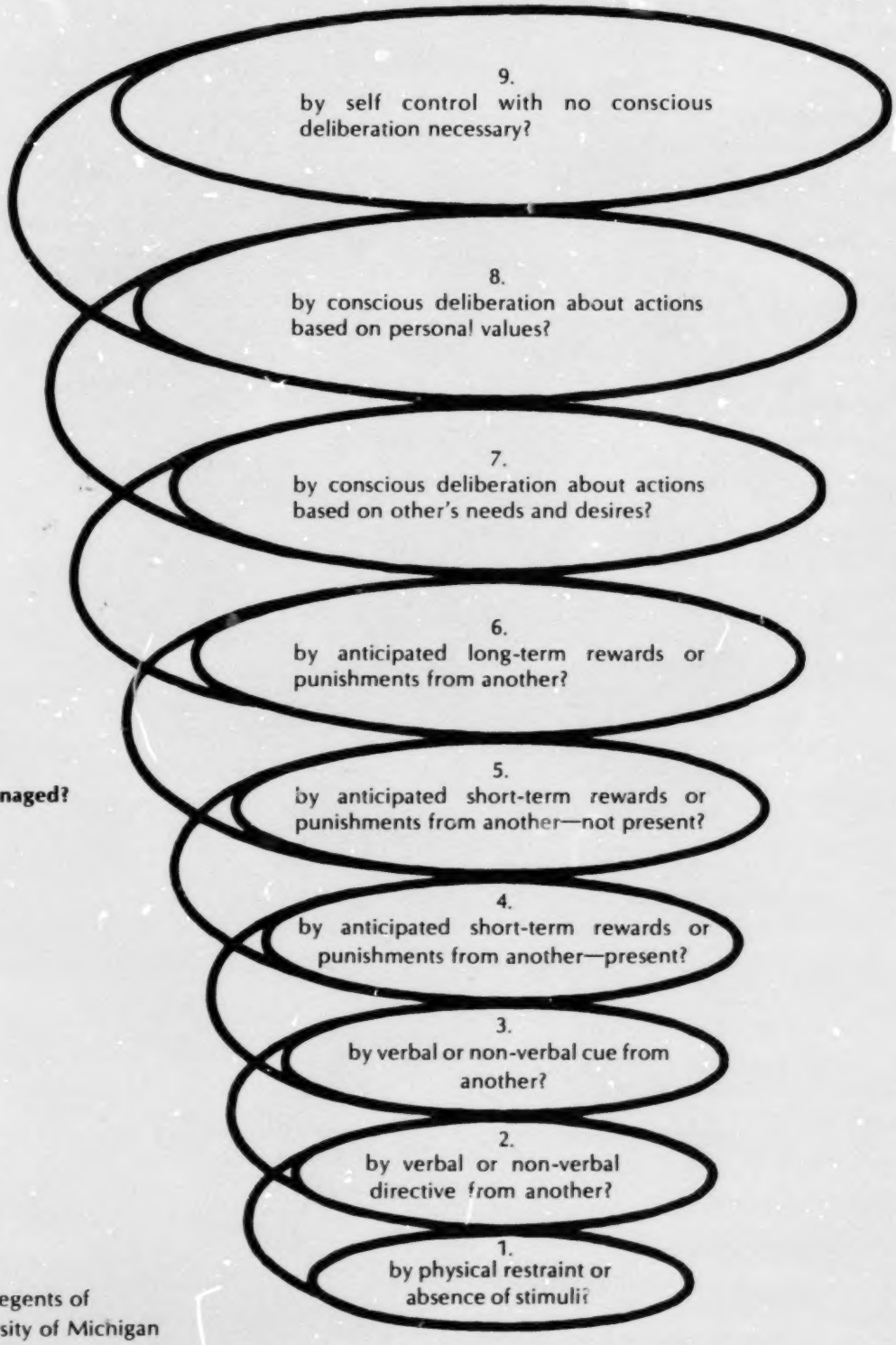
The Stages

Figure 2 represents the developmental stages.

Students functioning at the lowest level of impulse control manage their impulses primarily through *physical restraint by the adult or an absence of stimuli*. At stage one, children are almost totally dependent on the external environment to provide control over their impulses. They are primarily stimulus-response bound. Teachers of seriously disturbed or behaviorally disordered students will recognize this behavior pattern. Teachers in infant programs will also recognize this level. Highly seductive learning materials, water or high stimulus objects such as noise makers, bouncing and rolling objects, etc., cause havoc for teachers of students at this level. The students seem drawn to the stimuli. They are unable to avoid the objects unless the adult intervenes or the object is removed. In a program for seriously emotionally disturbed boys in the Syracuse schools, the presence of a sink in the classroom provided many opportunities to observe impulse management at this low level. Two of the boys were unable to pass near the sink without being physically escorted past it. The appeal of water play and their fascination with the power of the faucet proved seductive beyond their impulse management abilities.

Figure 2

Impulse Management Sequence:
Stages of Development


9.
by self control with no conscious deliberation necessary?
8.
by conscious deliberation about actions based on personal values?
7.
by conscious deliberation about actions based on other's needs and desires?
6.
by anticipated long-term rewards or punishments from another?
5.
by anticipated short-term rewards or punishments from another—not present?
4.
by anticipated short-term rewards or punishments from another—present?
3.
by verbal or non-verbal cue from another?
2.
by verbal or non-verbal directive from another?
1.
by physical restraint or absence of stimuli?

How are impulses managed?

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The second observable stage of impulse development is characterized by an ability to manage impulses only if a *verbal or non-verbal directive* from someone in the environment is provided. Children at this level depend on the adult's words. Such directives as, "John, do not touch that sink;" "Sit down;" "Don't touch that;" "Stand next to your desk;" are needed to control the behaviors. Non-verbal directives may also be helpful to children at this level. Gestures with directive meaning assert the same kind of external influence over the student's behavior. They provide the same necessary support for impulse management. A gesture that firmly points to the student's chair will convey the same control meaning as "sit down," after it has been used several times in conjunction with the verbal message. Likewise, there are strong non-verbal gestures for stopping a behavior, for coming, and others that assist students at this stage. The important distinction here is that the authority for behavioral change is provided by external sources; in this case it comes from the adult presence and behavior. It matters little if the message is verbal or non-verbal if the adult is not prepared to carry through on the control directive. At this level, students depend on the ability of things and people in the environment to help provide control over their impulses. Therefore, if a directive such as "sit down," is given, the adult must wait until the student has complied before changing focus. We often error with students at this level by giving directives and then too quickly going on to other students or tasks. The support of the external directive is not really there if we are not prepared to follow through.

The intensity of the external control begins to give way to more internal associations in the student at stage three. Here the student's impulses are managed *by verbal or non-verbal cueing* from another. At this stage, the student is reminded of the directive by the use of signs, key words and signals. The teacher may say, "John, remember;" "Think;" "Hold on;" and other such private and abbreviated communications. Signaling systems may be devised between the teacher and the student. Signal systems are reported as highly effective by some teachers who work with impulsive students. A privately determined set of signals between a student and teacher can serve as a whole conversation in some cases. The child alerts the teacher to his or her increased stress or frustration, and the teacher signals permission to move to a more controlled area in the classroom, and so on. The adult acts as a cueing system for the student who begins to associate the cue with the responses that have previously followed such behavior. At this level, the student is simply associating behavior with a cue from the environment; the behavior is brought increasingly to the conscious level.

Stages four, five and six are basically expansions of one process, the ability to delay gratification. At the lowest of these levels, the student requires *short-term rewards from a person in the environment.* The student depends on the active involvement of the environment at this level. Reinforcements from the environment must be closely associated with the behavior for the student to maintain this connection. Students at this level may momentarily resist responding to a provocation from another student, but will often look immediately to the teacher, or say, "I didn't get involved, Mrs. Jones." They are able to resist temptation and control their impulses, but only for short times and only in light of relatively immediate supports.

A significant change takes place at stage five: the student is able to delay gratification one step further, even if the teacher is not in the room. The length of delay is still short, however. We often see examples of this level of functioning in elementary grades. Students may be working diligently, maintaining frustration tolerance, controlling their impulses to play with toys and other gadgets in the room, while the teacher is at his or her desk. With everything going smoothly, the teacher steps through the doorway to speak with someone in the hall. Within minutes, several students are out of their seats, perhaps missiles of various descriptions have even crossed the room. Often the teacher re-enters the classroom, with any one of several emotions in full expression: anger, disappointment, embarrassment, frustration or confusion. Realizing that some of these children could be expected to lose control of their impulses under these conditions can help avoid such adult frustration. Children at stage five can delay even when the adult is not present, but not for long.

At stage six, students have gained some tools for helping them maintain self-control. These tools, the accumulation of experience and the ability to self-instruct, help them manage impulses for longer periods. They anticipate *long-term rewards from another person.* Most often these rewards are from the classroom teacher. However, rewards may also be anticipated from parents or other significant persons in their lives. Students at this level can manage impulses, even in the face of increasingly lengthy delays between their needs and gratification of those needs. For some students, being able to wait for the teacher's attention until the reading group is over is long-term gratification; albeit, in adult perceptions it is shorter than we would like. If the environment is predictable in meeting needs, this period lengthens. Stickers and other accumulative signs of reinforcement begin to influence behavior. This stage of lengthening delay is

probably variant with different impulses. Certainly there are some impulses that seem difficult to manage well into adulthood. It is also probable that this stage is accomplished over a prolonged period of time. These issues are in need of empirical study.

At stage seven, impulses are managed by *conscious deliberation about actions based on others' needs and desires*. At this stage, a new dimension becomes obvious. It is seen not so much through observing student behavior, as through interviews with them about the reasons behind their behavior. Questions such as "Why didn't you. . . . .?" and "What would make you not. . . . .?" are valuable sources of information for adults trying to understand student behavior. Responses such as "I would have taken that seat, but I know Jim likes to be in the front," or "I'm not going to do that, because my mom would be really mad," add to our understanding of the student's development. The new dimension is obvious in the reasons given. The student is considering the desires of someone else, and that consideration influences the behavior produced. Certainly this is an important element for social as well as continued affective development. The ability to consider others' needs before acting shows the mediation of cognition between stimulus and response. It also reflects a growing sense of personal decision making, perhaps representative of the increased internalization and origin orientation.

With increased internalization and personal causation, stage eight emerges. Impulses are controlled by *conscious deliberation about actions based on personal values*. Students at this level reflect decision making coupled with statements of their own values. It would be naive to assume that these values are solely their own. They have been established through the influence of others. The important part is that students perceive the values as their own. The students' statements reflect an association between the students' decision making and their values.

Finally, at stage nine impulses are managed by *self control with no conscious deliberation necessary*. This level represents complete internalization of control. Assertion over impulses is totally controlled by the person, without need for external controls, or even conscious, cognitive assists. It is obvious that students with behavioral disorders are probably never seen at this level. My own understanding of this process is that few adults reach this level. Many have difficulty managing specific impulses and function at lower levels. Questions such as the following arise: Do some impulses resist this progression towards internal management? Are some impulses more readily the cause of regressed levels of functioning than others? Certainly these questions cannot be answered with empirical certainty now. These issues and others regarding developmental stage theory need study. Still, it is possible to see how assessment may be enhanced by such purposeful exploration of the domain of impulse management. The stages help direct purposeful assessment and meaningful assembly of the information gathered.

Intervention Description

The reader may now see how to proceed in determining a "developmental intervention." It is necessary to understand the processes involved in the development of a particular domain of functions; next, to assess student progress in terms of the normal progression of changes in that domain. Recognizing the general progression of growth in a particular domain, we may better understand the unique pattern of a student and anticipate the next levels likely to emerge. We may also identify the environmental and human supports necessary to facilitate or restore further growth for that student.

> Recognizing those impulses which dominate the behaviors in early childhood, the adult must tread between the boundaries of overburdening the child with demands on the one hand and of failing to provide sufficient controls for him on the other hand. Only when educational objectives and methods are designed within the context of the sequence of development of the students can they be appropriate and effective. (Bobroff, 1960, p.336).

"Treading" is far more difficult for teachers who must also adjust their reactions and expectations to work with students whose development is regressed or lagging in a particular area. This is particularly so in impulse management for teachers of behaviorally disordered students.

Figure 3 illustrates an extrapolation from developmental stages to implication for practice as designed in the IBP model. "Implications" indicates the environmental modifications and supports, adult responses and skills that must be provided to support a student at each level. The basic question is: "What does each stage imply for environmental and human intervention strategies, in order that they might facilitate the emergence of the next developmental stage?" As each of these stage implications are discussed, brief mention will be made of currently available curricular programs to help meet student needs for each level.

Figure 3

Impulse Management Sequence: Stages and Implications for Interventions

How are impulses managed?

9. by self control with no conscious deliberation necessary?

8. by conscious deliberation about actions based on personal values?

Needs:
- *to review and evaluate personal choices

7. by conscious deliberation about actions based on other's needs and desires?

Needs:
- *practice in means-end problem solving
- *practice in determining options
- *values clarification

6. by anticipated long-term rewards or punishments from another?

Needs:
- *consistant and predictable reinforcement for delay of impulses and use of judgments
- *practice in cause-effect thinking

5. by anticipated short-term rewards or punishments from another—not present?

Needs:
- *mental rehearsal of potential reactions and behaviors
- *practice applying strategies
- *stimulation of internal cueing

4. by anticipated short-term rewards or punishments from another—present?

Needs:
- *consistant and predictable reinforcement
- *cause and effect interpretations
- *to learn self-talk

3. by verbal or non-verbal cue from another?

Needs:
- *limits *posed* by others
- *"modeled" self-talk

2. by verbal or non-verbal directive from another?

Needs:
- *consistant rules
- *limits *imposed* by others

1. by physical restraint or absence of stimuli?

Needs:
- *physical restraint
- *removal of stimuli
- *distraction or substitution

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16

Stage Implications: The Interventions

In order for an intervention to be developmentally prescriptive for students at stage one, the lowest stage in the development of impulse management, it must provide the necessary external control. Physical restraint must be available when needed. The environment must be regulated so that stimulation is reduced for the students.

The phrase "child-proofing the environment" is sometimes used by parents to indicate that most every breakable item has been removed from the child's reach. This technique is most often tried when the child has reached the mobile, exploratory age and seems to be unable to resist manipulating each and every trinket and knickknack in the house. Caution should be taken lest we too quickly agree with a generalized use of this technique, however. If the environment is so regulated that it becomes sterile and undemanding, can it provide experiences that facilitate development of impulse control? The presence and consistency of adults in our environment helps us restrain our impulses when necessary, redirect them when necessary and provide for the beginning of mental organization of our experiences. It may at times seem easier to child-proof the environment than to follow toddlers from one table to the next, restraining their hands. Children must also hear verbal directives that go with physical restraints and redirections if they are to begin organizing their own experiences. If developmental interventions are to be used at this level, the student-adult ratio must allow for much direct intervention.

At stages two, three and four, developmental interventions should incorporate behavior modification technologies. The central theme to interventions at these stages is consistency and predictability of responses. An intervention cannot be prescriptive for students at these stages unless there is follow-through and predictable reinforcement. Even at these low stages, however, the progression away from totally externally controlled procedures is noticeable.

At stage two, limits need to be imposed by adults in the environment. Energy is focused on helping the developing student organize experiences and develop associations between behaviors and the reactions of others. These associations will hopefully lead to the process of anticipation and with that, delay of gratification. At this level, students need to understand rules and expectations. Rules and expectations must be specifically stated for them to maintain control over their impulses. To meet the degree of consistency and predictability necessary at this level, a low student-adult ratio is implied.

Meichenbaum (1976) described the five steps in self-talk instruction as follows:

1) Cognitive modeling—adult performs the task while self-talking
2) Overt, external guidance—child performs the task and repeats the self-talk that was modeled
3) Overt self-guidance — child performs while self-instructing
4) Faded, overt self-guidance—child whispers self-talk
5) Covert self-instruction—child performs the task while using only private speech (p.227).

Developmental interventions for students at stage three include the beginning step of this self-talk teaching process: the adult models the process. As early as stage three in the development of impulse management there is a recognition of the role of cognition. The process of attending to self-talk begins. It is also important to note that while the more traditional behavioral approaches were most prescriptive for stage two, and are certainly still required at stage three, the approach of the cognitive behaviorists seems to address stage three students' needs more precisely.

At stage three, limits are posed by adults. There is a fine distinction between "imposed" and "posed." The first reflects the directive quality of interactions; the latter reflects a reminder—a suggestive, less direct approach by the adults. At stage three, the process of self-talk should also be modeled by the adult. This is an opportunity to indirectly begin teaching self-talk by drawing the student's attention to it.

Empirical studies show that cognitive modeling alone is not as effective as combining it with teaching self-instruction. Among the authors who have addressed this issue is Debus (1970). The implications for programs at the fourth stage of impulse management call for teaching self-control. Additionally, students need to begin hearing interpretations of cause and effect. They need assistance in connecting the behaviors they produce with the reactions they receive from others. Such interpretations assist the students in learning to anticipate outcomes.

Rules and expectations must be specifically stated for students to control their impulses.

Skillful teachers will take the central concepts and modify them for their own students' age and interest levels.

Comp, Blom, Hebert and van Doorninck (1977) have described a curriculum training program for use with young children. Titled *Think Aloud*, it is produced by Research Press. The program involves "modeling and verbalization of cognitive activity to foster use of verbal mediation skills in dealing with both cognitive and interpersonal problems" (p.157). This commercially available program is potentially helpful in assisting teachers who work with students at levels three and four.

The "Life-Space Interview," another technique helpful at these levels, is a valuable tool for clinicians as well as teachers. It is described by many authors. Among these are Redl (1959) and Morse (1976). There are five general steps in applying this interview technique: 1) defining the child's perceptions of the nature of the crisis-testing for the spread and depth of the problem; 2) draining off the affect associated with the crisis; 3) accepting the perceptions of the student and acknowledging their importance in understanding the conflict; 4) evaluating the student's ability to resolve the problem and establish alternative solutions; and 5) resolution of the crisis. For students at levels three and four, the first three parts of the life-space interview process seem most developmentally prescriptive: helping the student define a problem interaction—the connections between impulses/behaviors and adult responses; draining off overwhelming affect, and accepting the student's feelings.

Another program that may prove helpful for students exhibiting behaviors at levels three and four is called A Mental Health Program for Preschool (and Kindergarten) Children. It was designed by Shure and Spivak (1975 a) to assist students in identifying a problem, looking at behavior, and understanding cause and effect relationships. A difficulty with curricular materials that assist the teacher at these levels in teaching cause/effect relationships and self-talk, is that most are designed for students at an age when these skills are typically developed. For practitioners who work with behaviorally disordered students, this is a dilemma. While students' impulse development may reflect a low level, their interest levels and ages may be at higher levels. Skillful teachers will take the central concepts of these materials and modify them to their own students' age and interest levels.

At stage five, developmental interventions need to encourage students to mentally rehearse self-instruction techniques, practice the cause and effect predictions they are learning to make, and practice applying new behavioral strategies. At this level, self-talk is becoming more internal, as is cause-effect thinking. The ability to anticipate is beginning to affect behaviors. The student is able to delay gratifications for short periods. Previously cited materials can be helpful if they are used in a less directive, more encouraging manner. The goal here is to help the student assume an increasing degree of control over his or her impulses.

Glasser's (1969) Reality Therapy Approach has prescriptive value at this stage. Another approach that helps students develop and practice new strategies of behavioral control is described by Fagen, Long and Stevens (1975). In the authors' words:

> The self-control curriculum seeks to develop skills which are necessary for confronting, making and acting upon difficult decisions. By facilitating practice and reinforcement of the eight identified processes for self-control, it is expected that growth will occur in one's capacity to direct and regulate personal action flexibly and realistically in a given situation (p.75).

Note that two of the eight processes these authors associate with self-control parallel markers described as part of the IBP model, "Inhibition and Delay" and "Anticipating Consequences." At stage five, a shift is beginning to occur in program implications. There is a shift from control as a compliance function to self-control as a personal, facilitating function. The beginnings of the Origin orientation and the concept of self-control as a psychological function may be recognized in the suggested interventions at this stage.

Three more specific instructional assists are identified here. Parts of each, as well as fuller use of the previously identified materials, may be helpful in meeting the needs of level five students. The materials are entitled, Developing Self Discipline, Consequences Cards, and Interpersonal Cognitive Problem Solving Curriculum.

A note of interest seems appropriate here before moving to the more mature stage six. The literature regarding self-talk is surprisingly devoid of discussions on the different content that might be taught to children as they learn to self-talk. There is an entire range of messages that can be included in self-talk; each reflects a different position on a hierarchy from external to internal control. For instance, I may self-instruct by saying, "Don't do that;" "Don't do that because when I do. . . .will happen;" "Don't do that because Mom wants me not to;" "Don't do that because I feel terrible when I do;" or "Don't do that because I don't want to and I can decide for myself" and so on. These are different self-messages. Each reflects a very different level of understanding and response. As one views the implications for these stages in the development of impulse control, it is important to remember that the actual intervention, the nature of the intervention message and the interpersonal relationship are important in any decision about its prescriptiveness. In these considerations, and most clearly as we view implications from stage five upward, we see the concerns and techniques of psychoeducators come into focus. The techniques most often associated with psychoeducational programs become the most prescriptive technologies at this point in the developmental sequence.

Developmental interventions for stages six, seven, eight and nine are centered on identification of feelings and values, and exercise of personal choice. The cognitive skills enriched at these stages are cause-effect thinking, means-ends thinking and evaluation of choices. At this level, the environment and the adults in it need to reinforce students' delay of impulses, their process of determining options and their "thinking-through" situations and problems. The exercise of self-control is fostered by encouraging the student to function in an increasingly Origin role, by creating opportunities for self-expression, self-assertion, personal judgments and actions based on values.

Again, various curricular programs in part or whole may be helpful to teachers for these stages. They include:

1. DUSO-Developing Understanding of Self and Others; American Guidance Services, Inc.
2. Interpersonal Cognitive Problem Solving Curriculum; Shure, M. B.; and Spivack, G.
3. Learning to Cope; January Productions
4. Lifeline; Argus Communications
5. Little Things that Count; Eye Gate Media and Eye Gate House, Inc.
6. Mixing In; Scholastic Magazine, Inc./Kindle
7. Transition; American Guidance Service, Inc.
8. Values in Sweet Pickles; BFA Educational Media
9. Your Emotions, The Coping Process; Sunburst Communications

Teachers should be cautioned in the wholesale use of prepared curricular materials to meet the developmental needs of a student. The response to the student, be it through materials, the teacher or the environment, needs to match the level of development in order for prescription to occur. For example, "Cognitive rationales can increase children's self-control, but only if the content of the rationale is consistent with what the child can comprehend (as a function of developmental level)" (Pressley, 1979, p.347).

Teachers should be the scientists/artists who select and use pieces of available materials to create prescriptive, appropriate program effects, which are then called developmental interventions.

Teachers should be the scientists/artists who use pieces of available materials to create developmental interventions.

Summary

Tall Tree, Small Tree is a children's book written by Mabel Watts. Throughout the book, the author asks a question and then responds to it: "What's the best kind of tree? It all depends on who you are. And where you are. And what sort of tree you need." The readers discover that an apple tree is good for climbing and can provide food if you are hungry; whereas, to a horse, a cottonwood provides shade for rest and a strong trunk for scratching, etc. By the last page, when the question is asked, the multiplicity of correct answers is obvious to the reader.

If we have been guilty in our teaching of asking the question, "What's the best kind of intervention for behaviorally disordered students?" we need to be aware of the multiplicity of correct answers here, too. Each intervention is dependent on the developmental need of the student. I have attempted to show what makes an intervention a developmental intervention. The orientation of developmental interventionists has been discussed. Several developmentally based programs were briefly reviewed. One model for better understanding student development, for synthesizing various theories and for integrating technologies was discussed—the IBP model. The development of the ability to manage impulses was discussed in detail. The theoretical and empirical basis for the model of impulse management was provided. Finally, specific developmental interventions were identified for each of the stages in the development of impulse control.

There is great excitement for practitioners using developmental theory. In order to gain the necessary assessment information, they are drawn into intense explorations with students. They begin to see the process of development and different experiences through the developing perceptions of the student. In designing prescriptive developmental interventions, the usefulness of many different technologies becomes clear. For teachers of behaviorally disordered students, such an orientation emphasizes normal development rather than pathology, and allows a new kind of partnership between the student and the adult, one based on growth and achievement rather than on a deficit orientation.

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